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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/652,262	08/29/2003	Dirk Hummel	KEGB:002US	1960

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EXAMINER

HAYES, BRET C

ART UNIT	PAPER NUMBER
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3644

DATE MAILED: 04/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/652,262

Applicant(s)

HUMMEL ET AL.

Examiner

Bret C Hayes

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-35 is/are rejected.
- 7) ☒ Claim(s) 1-35 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 12/08/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Specification

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

2. The abstract of the disclosure is objected to because, line 1, "The present invention provides for..." should be avoided. Correction is required. See MPEP § 608.01(b).

Claim Objections

3. Claims 1 – 35 should be revisited and revised as indicated below as there are many recitations that can be misunderstood. Examples of some of the objections are as follows, but not limited to: claim 1, line 2, it has been held that the recitation that an element is "adapted to" perform a function is not a positive limitation but only requires the ability to so perform and does not constitute a limitation in any patentable sense [*In re Hutchinson*, 69 USPQ 138], line 3, "one or more" should be --at least one-- and should further precede any and all recitations applicable, such as, "command signals", "data packages", "and authorization keys", since it is more easily understood when preceded by "the" or "said", line 4, "a group of detonators" is unclear as "a plurality of detonators" has previously been recited, line 13, it has been held that the functional "whereby" statement does not define any structure and accordingly cannot serve to distinguish

[*In re Mason*, 114 USPQ 127, 44 CCPA 937 (1957)], and line 17 and anywhere else applicable, “the same as” should be --similar to--; and claim 2, line 1, “any one data package” as above.

4. This list is **NOT** comprehensive and the remainder of the claims should be carefully revisited and revised as necessary. Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

6. Claims 1 – 35 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

7. The claims are replete with antecedent errors and other ambiguities. Examples of these include, but are not limited to the following.

8. Claim 1, lines 12 – 15, “the stored data package(s)”, “the data package(s)”, “the authorization key(s)”, and “the blasting machine(s)” are completely unacceptable because it cannot be determined whether one, singular item applies to a singularity or plurality of other items or vice versa – see above with regard to using “at least one” instead.

9. Claims 3, 4, 32 and 33, “the data package(s)”, etc. as above.

10. Claim 6, line 2, the phrase “and / or” is unclear as the metes and bounds of the claim cannot be determined.

11. Claim 15 recites the limitation “said any one detonator” in line 12. There is insufficient antecedent basis for this limitation in the claim.

12. Claim 16, line 3, “adapted to”, “one or more”, and “the same as”, all as above.

13. Claims 20, 21 and 35, line 2, "and / or" as above.
14. Claim 30 recites the limitation "said one or more data packages" in 15 of page 32. There is insufficient antecedent basis for this limitation in the claim.
15. Claim 31 recites the limitation "said any one data package" in line 3. There is insufficient antecedent basis for this limitation in the claim.
16. This list is **NOT** comprehensive and the remainder of the claims should be carefully revisited and revised as necessary.

Claim Rejections - 35 USC § 102 and § 103

17. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

18. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

19. Claims 1 – 35 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over US Patent No. 5,014,622 to Jullian.
20. Re – claim 1, Jullian discloses the claimed invention including an apparatus for controlling a plurality of detonators, see col. 3, line 68, "blasting caps", for example, comprising: a central command station*, which transmits one or more command signals; one or more blasting machines **20** in signal communication with both the central command station and a group of

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detonators, each blasting machine including means for generation of a data package, set forth at col. 7, line 1, comprising a randomly generated access code**, means for receiving one or more command signals and one or more data packages transmitted by the central command station, and means for comparing generated and received data packages, set forth at col. 13, line 40; one or more authorization keys **18** including: (a) physical association with one or more blasting machine, (b) direct transfer to and storage of each data package, and (c) physical transfer from the one or more blasting machines to the central command station for delivery of the stored data package(s) to the central command station. *A central command station would be inherent in any commercial blasting situation. **A randomly generated access code would be inherent in any "security code" as set forth at col. 5, line 43.

21. Re – claim 2, Jullian discloses the data package comprising a unique identification code corresponding to the blasting machine that generated the package, as set forth at col. 7, line 40, "An identification bit 102 is used to indicate whether the data packet originated with the blasting galvanometer 18, blasting machine 20 or one of the blasting caps".

22. Re – claims 3 and 4, control of the order of firing is well known in the art of blasting and would be inherent.

23. Re – claim 5, Jullian discloses at col. 5, line 4, "an encoder/decoder unit **60** for purposes of data transfer".

24. Re – claim 6, Jullian discloses the invention substantially as claimed except for 32-bit encryption. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use 32 bit encryption, since it was known in the art that as technology advances, greater number bit encryption will be possible and usable. Unless Applicants are

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claiming the creation of 32-bit technology, to use it in this manner would be inherent in any encryption device.

25. Re – claim 7, Jullian discloses the claimed invention. The codes being active for a single blast event would be inherent in any blasting event, since once the event is over, there is no longer a need for the codes and so would be inactive.

26. Re – claim 8, Jullian discloses a predetermined time window, as set forth at col. 2, line 22, "...the required timing function is provided by storing the recorded blasting delay in a counter and applying clock pulses to the counter upon receipt of a valid blasting signal until the counter counts effectively counts through the required blasting delay. Igniter actuating means serve to actuate the igniter means and are controlled by the control means at least in part in response to expiry of the time interval. The control means may control ignition of the associated charge in response to other signals such as security codes"

27. Re – claim 9, it would be inherent to locate a central command station remote from the blasting machines and detonators.

28. Re – claim 10, Jullian discloses the claimed invention except for radio-signal communication. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use radio-signal communication, since the equivalence of a communication line 14 and radio-signal communication for their use in the blasting art and the selection of any known equivalents to a communication line would be within the level of ordinary skill in the art.

29. Re – claim 11, Jullian discloses communication line 14, as set forth above.

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30. Re – claim 12, Jullian discloses the claimed invention in that information from galvanometer 18 is transferable to machine 20.
31. Re – claim 13, Jullian discloses arm, fire and disarm signals.
32. Re – claim 14, Jullian discloses the individuality of each detonator and delaying the firing of the detonators.
33. Re – claim 15, Jullian discloses a master unit at col. 7, line 30.
34. Concerning method claims 16 – 35, in view of the structure disclosed by Jullian, the method of operating the apparatus would have been inherent, since it is the normal and logical manner in which the apparatus could be used.

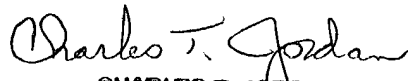
Conclusion

Any inquiry concerning this communication should be directed to Bret Hayes at telephone number (703) 306 – 0553. The examiner can normally be reached Monday through Friday from 5:30 am to 3:00 pm, Eastern Standard Time.

If attempts to contact the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Jordan, can be reached at (703) 306 – 4159. The fax number is (703) 872 – 9306.

bh

4/3/04


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